

### REMARKS

Applicants appreciate the thorough examination of the application that is reflected in the Office Action dated November 28, 2006.

In the Office Action dated November 28, 2006, claims 1-17 were rejected.

To expedite prosecution of this application, this response amends independent claims 1, 7-8, 13, and 15-17. Support for these amendments appears throughout the specification and drawings, for example, in FIGS. 1-6 of the drawings and at paragraphs [0020], [0023], [0024] [0027] and [0031] of the application. This response also adds new claims 22-23.

Claims 1-17 and 22-23 (19 total claims; 7 independent claims) remain pending in the application. Reconsideration of the application is respectfully requested in view of the above amendments and the following remarks.

### **Claim Rejections Under 35 U.S.C. §103**

Claims 1-17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Ellinthorpe, USPN 5,924,648 (hereinafter "Ellinthorpe"), in view of Cooper, USPN 3,970,295 (hereinafter "Cooper"). Applicants respectfully traverse these rejections for at least the following reasons.

### **Claims 1, 7, 15 and 16**

Claim 1 relates to a rocket engine transport. Claim 1 recites:

a trailer having a long axis which extends along a lengthwise dimension of the trailer, wherein the trailer comprises a track which extends along the lengthwise dimension of the trailer;

a tail support member coupled to the trailer and having a notch configured to receive a pin attached to a distal end of the rocket engine; and

a chock assembly comprising a chock pivotably coupled to a trolley, wherein the chock is configured to accept the rocket engine, wherein the trolley is coupled to the trailer via the track, and wherein the trolley is configured to move laterally within the track in a direction substantially parallel to the long axis, and wherein the chock is configured to pivot about a rotation axis that is substantially perpendicular to the long axis of the trailer in response to a force applied against the chock by the rocket engine as a second end of the rocket engine is elevated to a position that is substantially perpendicular to the long axis. (Emphasis added.)

Claim 7 relates to a rocket engine transport. Claim 7 recites:

- a trailer having a track running parallel to a longitudinal axis which extends along a lengthwise dimension of the trailer, wherein the trailer comprises a track which extends along the lengthwise dimension of the trailer;
- a tail support member coupled to the trailer and having a notch configured to rotatably receive a pin attached to a distal end of a rocket engine; and
- a chock assembly comprising:
  - a chock,
  - a trolley coupled to the trailer via the track, and wherein the trolley is configured to move laterally within the track in a direction substantially parallel to the longitudinal axis,
  - a pair of bearing assemblies rotatably coupling the chock to the trolley, and
  - a pair of cradle assemblies, each cradle assembly comprising a support bracket coupled to the chock and having a trunnion configured to interact with the bearing assembly,
- wherein the chock is configured to accept the rocket engine and to pivot on the trunnion about a rotation axis that is substantially perpendicular to the longitudinal axis in response to a force applied against the chock by the rocket engine as a second end of the rocket engine is elevated to a position that is substantially perpendicular to the longitudinal axis. (Emphasis added.)

Claim 15 relates to an object transport. Claim 15 recites:

- a trailer having a longitudinal axis which extends along a lengthwise dimension of the trailer, wherein the trailer comprises a track which extends along a lengthwise dimension of the trailer;
- a tail support member coupled to the trailer and having a notch configured to receive a pin attached to a distal end of an object; and
- a chock assembly comprising a chock and a trolley coupled to the trailer via the track, and wherein the trolley is configured to move laterally within the track in a direction substantially parallel to the longitudinal axis of the trailer, and wherein the chock is configured to accept the object and to pivot about a pivot point on the trolley about a rotation axis that is substantially perpendicular to the longitudinal axis in response to a force applied against the chock by the object as a second end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis. (Emphasis added.)

Claim 16 relates to an object transport. Claim 16 recites:

- a trailer having a track running parallel to a longitudinal axis which extends along a lengthwise dimension of the trailer, wherein the trailer comprises a track which extends along a lengthwise dimension of the trailer;

- a tail support member coupled to the trailer and having a notch configured to rotatably receive a pin attached to a distal affixed near a first end of an object; and
- a chock assembly comprising a chock, a trolley coupled to the trailer via the track, and wherein the trolley is configured to move laterally within the track in a direction substantially parallel to the longitudinal axis of the trailer, a pair of bearing assemblies rotatably coupling the chock to the trolley, and a pair of cradle assemblies, each cradle assembly comprising a support bracket coupled to the chock and having a trunnion configured to interact with the bearing assembly, wherein the chock is configured to accept the object and to pivot about a rotation axis that is substantially perpendicular to the longitudinal axis in response to a force applied against the chock by the object as a second end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis. (Emphasis added.)

1. *Applicants respectfully submit that the cited references fail to teach or suggest “a trailer having a longitudinal axis which extends along a lengthwise dimension of the trailer, wherein the trailer comprises a track which extends along a lengthwise dimension of the trailer,” as recited in claim 15.*

Applicants submit that the cited references fail to disclose this recitation for at least the following reasons.

Applicants have amended independent claim 15 to recite that the “trailer comprises a track which extends along a lengthwise dimension of the trailer.” In the Office Action dated November 28, 2006, the Office concedes that Ellinthorpe’s trolley 52 “does not traverse a trailer having a track as disclosed in Applicant’s figures.” Applicants agree and submit that the Cooper reference also fails to teach or suggest a trailer which “comprises a track which extends along a lengthwise dimension of the trailer,” as recited in claim 15. For at least this reason, Applicants submit that claim 15 is patentable over the cited references.

2. *Applicants respectfully submit that the cited references fail to teach or suggest “a tail support member coupled to the trailer and having a notch configured to receive a pin attached to a distal end of an object,” as recited in claim 15.*

Applicants submit that the cited references fail to disclose this recitation for at least the following additional reasons.

In the Office Action dated November 28, 2006, the Office asserts that Ellinthorpe teaches “a tail support member 20A-B configured to receive a pin (see FIG. 1A reproduced below).” The Office also notes that “Applicant does not recite a pin affixed to a rocket engine.” To expedite prosecution of this application, Applicants have amended independent claim 15 to recite “a tail support member ... having a notch configured to receive a pin attached to a distal end of an object.” Support for this amendment can be found throughout the specification and drawings, for example, in FIGS. 1-3 and 6 of the present application.

Ellinthorpe teaches a “system for rapidly and readily upending/reclining an extraterrestrial vehicle for assembly, transport, storage and/or launching purposes.” See Ellinthorpe, C1/L67-C2/L2. More specifically, Ellinthorpe teaches a “bridge assembly ... of an open frame construction and includ[ing] cradle means to matingly receive an extraterrestrial vehicle” and “one or more straps ... thereby restricting movement of the extraterrestrial vehicle relative to the bridge assembly during upending/reclining procedures.” See Ellinthorpe, C3/L3-17. Ellinthorpe does not teach or suggest that the interconnection means 30a (of the trunnion supports of 20a,b) shown in FIG. 1A of Ellinthorpe is “configured to receive a pin attached to a distal end of an object,” as recited in claim 15.

Applicants submit that the Cooper reference also fails to teach or suggest this recitation of claim 15. Cooper teaches a “pipe fitting locator ... use[d] in supporting a perpendicular branch pipe fitting so that the fitting can be accurately positioned for welding to the side of a longitudinally extending main pipe.” See Cooper C2/L49-53. The pipe fitting locator includes a “rail-mounted truck.” See Cooper C2/L58. However, as shown in FIGS. 1 and 2 of the Cooper reference, the pipe fitting locator 10 does not include “a tail support member coupled to the trailer and having a notch configured to receive a pin attached near a first end of an object,” as recited in claim 15. Rather, the branch pipe 11 to be welded is “mounted to the mounting plate 20 as by temporary fasteners 86,” as shown in FIG. 2 of Cooper, not by a notch/pin structure as recited in claim 15. See Cooper, C5/L32-34.

For at least this additional reason, Applicants submit that claim 15 is patentable over the cited references, and therefore respectfully request that the rejection of claim 15 be withdrawn.

3. *Applicants respectfully submit that the cited references also fail to teach or suggest “a chock assembly comprising a chock and a trolley coupled to the trailer via the track, and wherein the trolley is configured to move laterally within the track in a direction substantially parallel to the longitudinal axis of the trailer,” as recited in claim 15.*

Applicants submit that the cited references fail to disclose this recitation for at least the following additional reasons.

To expedite prosecution, Applicants have amended independent claim 15 to recite “a trolley coupled to the trailer via the track, and wherein the trolley is configured to move laterally within the track in a direction substantially parallel to the longitudinal axis of the trailer.” Applicants submit that the cited references fail to teach or suggest this recitation of claim 15. In the Office Action dated November 28, 2006, the Office concedes that Ellinthorpe does not disclose “a chock pivotably coupled to a trolley,” and further concedes that Ellinthorpe’s trolley 52 “does not traverse a trailer having a track as disclosed in Applicant’s figures.”

The Office asserts that the rail-mounted truck 14 of Cooper is a “trolley.” As noted above, Cooper does not teach the concept of “a trailer comprises a track,” or that “the rail-mounted truck 14 is coupled to a trailer via the track,” or that “the rail-mounted truck 14 is configured to move laterally within the track in a direction substantially parallel to the longitudinal axis of the trailer,” all of which are recited in claim 15.

Accordingly, Applicants submit that the cited references fail to teach or suggest that “the trolley is configured to move laterally within the track in a direction substantially parallel to the longitudinal axis of the trailer,” as recited in claim 15.

For at least this additional reason, Applicants submit that claim 15 is patentable over the cited references.

4. *Applicants respectfully submit that the cited references also fail to teach or suggest that “the chock is configured to accept the object and to pivot about a pivot point on the trolley about a rotation axis that is substantially perpendicular to the longitudinal axis in response to a force applied against the chock by the object as a second end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis,” as recited in claim 15.*

Applicants note that in the prior Office Action dated September 5, 2006, the Office conceded that Ellinthorpe did not disclose a trolley, but has now changed its position. In particular, in rejecting claim 15, the Office Action dated November 28, 2006, now takes the position that the support member 50 of Ellinthorpe is a chock assembly, and that the laterally extending toe portion 52 of the support member 50 is a trolley. The Office then concedes that Ellinthorpe does not disclose “a chock pivotably coupled to a trolley,” and further concedes that Ellinthorpe’s trolley 52 “does not traverse a trailer having a track as disclosed in Applicant’s figures.” See the Office Action dated November 28, 2006.

The Office asserts that the support member 50 of Ellinthorpe “moves laterally parallel to long axis C (of A) [see FIGS. 3A-B] such that a chock 50 pivots about a rotation axis PA that is perpendicular to long axis C (of A) [C9/L57-L58].”

Applicants respectfully disagree. Even assuming *arguendo* that the support member 50 of Ellinthorpe can be interpreted as a chock assembly, and that the laterally extending toe portion 52 of Ellinthorpe can somehow be interpreted as a trolley, Applicants submit that the support member 50 of Ellinthorpe is not configured to “pivot about a pivot point” on the laterally extending toe portion 52 “about a rotation axis that is substantially perpendicular to the longitudinal axis in response to a force applied against the” support member 50 by the object as a second end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis,” as recited in claim 15.

Applicants submit that the Cooper reference does not cure this deficiency of the Ellinthorpe reference. **It is unclear to Applicants which element in the Cooper reference corresponds to “a chock.”** However, Applicants submit that as shown in FIG. 2 of the Cooper reference, the pipe fitting locator 10 does not include a chock that is “configured to accept the object and to pivot about a pivot point on the trolley about a rotation axis that is substantially perpendicular to the longitudinal axis in response to a force applied against the chock by the object as a second end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis,” as recited in claim 15.

Accordingly, Applicants submit that the cited references fail to teach or suggest that “the chock is configured to accept the object and to pivot about a pivot point on the trolley about a rotation axis that is substantially perpendicular to the longitudinal axis in response to a

force applied against the chock by the object as a second end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis,” as recited in claim 15.

For at least this additional reason, Applicants submit that claim 15 is patentable over the cited references, and respectfully request that the rejection of claim 15 be withdrawn.

Accordingly, for at least the reasons enumerated above, Applicants submit that claim 15 is patentable over the cited references, and therefore respectfully request that the rejection of claim 15 be withdrawn.

For reasons analogous to those discussed above, Applicants submit that claim 1, and its dependent claims 2-6, are patentable over the cited references. In addition, Applicants submit that many of the dependent claims 2-6 are separately patentable since the cited references fail to teach recitations present in those claims.

For reasons analogous to those enumerated above with respect to claim 15, Applicants submit that claims 7 and 16 are also patentable over the cited references and that the rejection of claim 7, its dependent claims 22-23, and claim 16 should be withdrawn. For instance, Applicants submit that the cited references fail to teach or suggest, for example, a chock assembly which includes “a chock, a trolley coupled to the trailer via the track, and wherein the trolley is configured to move laterally within the track in a direction substantially parallel to the longitudinal axis of the trailer, a pair of bearing assemblies rotatably coupling the chock to the trolley, and a pair of cradle assemblies, each cradle assembly comprising a support bracket coupled to the chock and having a trunnion configured to interact with the bearing assembly, wherein the chock is configured to accept the object and to pivot about a rotation axis that is substantially perpendicular to the longitudinal axis in response to a force applied against the chock by the object as a second end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis,” as recited in claim 16.

#### **Claims 8, 13 and 17**

Claim 8 relates to a chock assembly for transporting a rocket engine on a transport having a longitudinal axis which extends along a lengthwise dimension of the transport. The transport comprises a track which extends along the lengthwise dimension of the transport. Claim 8 recites:

- a trolley portion designed to be coupled to the transport via the track, and wherein the trolley portion is configured to move laterally within the track in a direction substantially parallel to the longitudinal axis of the transport;
- a chock having a curved portion configured to receive the rocket engine; and
- a hinge portion configured to pivotably couple the chock to the trolley portion such that the chock is free to rotate about an axis in response to a force applied against the chock by the rocket engine when one end of the rocket engine is elevated to a position that is substantially perpendicular to the longitudinal axis. (Emphasis added.)

Claim 13 relates to a chock assembly for supporting a rocket engine on a transport having a longitudinal axis which extends along a lengthwise dimension of the transport. The transport comprises a track which extends along the lengthwise dimension of the transport. Claim 13 recites:

- a trolley portion designed to be coupled to the transport via the track, and wherein the trolley portion is configured to mate with the transport via the track and to interact with the transport to move laterally within the track in a direction substantially parallel to the longitudinal axis of the transport during elevation of the rocket engine;
- a chock having a curved portion configured to receive the rocket engine; and
- a hinge portion having a bearing assembly configured to pivotably couple the chock to the trolley portion such that the chock rotates about a pivot point on the trolley portion in response to a force applied against the chock by the rocket engine when one end of the rocket engine is elevated to a position that is substantially perpendicular to the longitudinal axis. (Emphasis added.)

Claim 17 relates to a chock assembly for supporting an object on a transport having a longitudinal axis which extends along a lengthwise dimension of the transport. The transport comprises a track which extends along the lengthwise dimension of the transport. Claim 17 recites:

- a trolley portion designed to be coupled to the transport via the track, and wherein the trolley portion is configured to mate with the transport via the track and to interact with the transport to move laterally within the track in a direction substantially parallel to the longitudinal axis;



a chock having a support portion configured to receive the object; and  
a hinge portion having a bearing assembly configured to pivotably couple the chock to the trolley portion such that the chock rotates about a pivot point on the trolley portion in response to a force applied against the chock by the object when one end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis. (Emphasis added)

Applicants submit that the cited references fail to teach or suggest, for example, “a trolley portion designed to be coupled to the transport via the track, and wherein the trolley portion is configured to move laterally within the track in a direction substantially parallel to the longitudinal axis of the transport,” as recited in claim 8.

For at least this reason Applicants submit that the rejection of claim 8 should be withdrawn. Claims 9-12 depend from independent claim 8. Accordingly, for at least the reasons discussed above with regard to claim 8, claims 9-12 patentable over Ellinthorpe in view of Cooper. In addition, Applicants submit that many of the dependent claims 9-12 are separately patentable since the cited references fail to teach recitations present in those claims.

For reasons analogous to those enumerated above with respect to claims 8 and 15, Applicants submit that the cited references do not teach or suggest each and every element of independent claims 13 and 17. Accordingly, for at least the reasons stated above, Applicants request the withdrawal of the rejections of claims 13-14 and 17.

In conclusion, for the reasons given above, all claims now presently in the application are believed allowable and such allowance is respectfully requested. Should the Examiner have any questions or wish to further discuss this application, Applicants request that the Examiner contact the undersigned attorney at (480) 385-5060.

If for some reason Applicants have not requested a sufficient extension and/or have not paid a sufficient fee for this response and/or for the extension necessary to prevent abandonment on this application, please consider this as a request for an extension for the required time period and/or authorization to charge Deposit Account No. 50-2091 for any fee which may be due.

Respectfully submitted,

INGRASSIA FISHER & LORENZ

Dated: February 23, 2007

By: /ERIN P. MADILL/  
Erin P. Madill  
Reg. No. 46,893  
(480) 385-5060